Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (currently amended) An apparatus for adjusting orthodontic treatment for an orthodontic patient already undergoing orthodontic treatment, wherein said orthodontic patient has brackets attached to the patient's teeth, and wherein an ~~arch wire~~ archwire is placed on the brackets, comprising:

a scanning system for scanning the dentition of the patient including brackets;

a workstation having a processing unit, a memory and a display; and

software stored in said memory and executable by said processing unit for processing captured images from said scanning system and converting said captured images into a current virtual three-dimensional model of teeth having brackets placed on the surface of the teeth of the patient;

[[a]] said memory storing said current virtual three-dimensional model; [[and]]

said memory further storing an original virtual three-dimensional model of the patient's teeth in malocclusion;

said software further executable by said processing unit to [[access]] overlay said original virtual three-dimensional model on said current virtual three-dimensional model; [[and]] display the superimposed [[said]] virtual three-dimensional model on said display;

said software further enabling the user in quantifying precisely the amount of movement of said teeth of the patient, thereby enabling adjusting orthodontic treatment for said orthodontic patient already undergoing orthodontic treatment.

~~said software further including navigation tools enabling a user to interactively manipulate said virtual three-dimensional model on said display, simulate the movement~~

~~of at least one tooth in said virtual three dimensional model relative to other teeth in said virtual three dimensional model, and position the teeth in said virtual three dimensional model relative to each other so as to place the teeth of said virtual three dimensional model into a target situation; and wherein said software automatically derives the three-dimensional configuration of a customized virtual orthodontic archwire to move the teeth to the target situation, based on the location of brackets on the surface of the teeth and the target situation for the teeth of the patient;~~

~~said software further executable by said processing unit enabling said user in printing one or more views of said customized virtual orthodontic archwire thereby assisting a practitioner treating the orthodontic patient in making necessary adjustments to the arch wire in accordance with the one or more printed views of said customized virtual orthodontic archwire.~~

Claim 2-42. (canceled)

Claim 43. (currently amended) The apparatus of claim 1, wherein said scanning system ~~further~~ comprises a hand-held scanner adapted for ~~intra-oral,~~ in-vivo scanning of a human patient.

Claim 44. (canceled)

Claim 45. (currently amended) The ~~method~~ apparatus of claim 1, wherein said software enabling adjusting orthodontic treatment identifies placement of additional bends in the archwire. ~~further comprising the step of exporting the parameters for the customized orthodontic archwire to an appliance manufacturing facility and manufacturing the customized orthodontic archwire from the exported parameters.~~

Claim 46. (currently amended) The apparatus of claim 1, wherein the virtual model of the dentition includes upper and lower archforms representing the teeth of the upper and lower arches of the patient.~~,~~ ~~and wherein the software enables a user to simulate changes in the placement of the upper archform relative to the lower archform.~~

Claim 47. (currently amended) The apparatus of claim 1, wherein said software ~~further including~~ includes a measurement tool enabling [[a]] an user to measure the amount of movement of said teeth of the patient. ~~in three planes of space the distance between two points on said virtual three dimensional model.~~

Claim 48. (currently amended) The apparatus of claim 1, wherein said software enabling adjusting orthodontic treatment ~~with the aid of the software the user alters~~ enables altering positions of one or more brackets placed on the surface of the teeth. ~~of the patient prior to said software automatically deriving the three-dimensional configuration of the customized orthodontic archwire~~.